

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/22807

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) :C08J 9/00; B01J 31/00 US CL :521/125, 129, 902; 502/155, 156, 167, 170, 172 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) U.S. : 521/125, 129, 902; 502/155, 156, 167, 170, 172		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,086,081 A (SAVOCA et al.) 4 February 1992, col. 3, l. 43-44.	1-5, 7-20
Y	US 5,162,379 A (SAVOCA et al.) 10 November 1992, col. 4, l. 60.	1-5, 7-20
Y	US 5,166,223 A (SAVOCA et al.) 24 November 1992, col. 5, l. 15.	1-5, 7-20
Y	US 5,177,046 A (SAVOCA et al.) 5 January 1993, col. 4, l. 40-41.	1-5, 7-20
Y	US 5,238,894 A (SAVOCA et al.) 24 August 1993, col. 5, l. 15.	1-5, 7-20
Y	US 5,248,646 A (SAVOCA et al.) 28 September 1993, col. 4, l. 58.	1-5, 7-20
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 01 OCTOBER 2002	Date of mailing of the international search report 12 DEC 2002	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer JAMES PASTERCZYK Telephone No. (703) 308-0661	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/22807

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,710,521 A (SOUKUP et al.) 1 December 1987, abstract, col. 2, l. 16-23, col. 5, l. 20-29.	1-20
Y	US 4,771,025 A (ELING et al.) 13 September 1988, abstract, col. 1, l. 54 to col. 2, l. 32,	1-20
Y	US 4,217,247 A (SZABAT et al.) 12 August 1980, abstract, col. 4, l. 28-59.	6
Y	US 5,454,561 A (WILLIAMS et al.) 7 November 1995, col. 6, l. 28-36.	6